

authors focus on lack of data and data inaccuracy. Lack of data is further subdivided into data gaps and data unrepresentativeness. Data gaps are also treated systematically in the sub-chapter 'Missing or Incomplete Information' of Chapter 2 (p. 50). Representativeness in LCI is the degree to which the data set reflects the system of interest. A pedigree matrix is suggested in which different grades of spatial, temporal, and technological correlations are ranked qualitatively and used to calculate a single uncertainty indicator. Inaccuracy in LCI is related to the precision of measurements and therefore seems suitable for quantitative analyses. The well-known technique of stochastic Monte Carlo simulation is suggested as framework for data inaccuracy analysis and described as stepwise procedure. Compared to the other chapters of the book, examples might have been helpful to illustrate intermediate results and decision steps during the analysis.

The appendix enclosed on a CD-ROM comprises an 81-page pdf document and two Excel sheets. The latter contain the SPOLD list of parameters and a capacious parameter hierarchy. In the documents, additional information on SPOLD and nomenclature rules are given as well as a scheme for spatial differentiation and further supplementary tables of chapter 2. Even if the authors do not claim to end up with mandatory lists, they have done their very best to suggest a common basis by a sound scientific compilation of data and information. Current data base projects like the Swiss ecoinvent already build on the recommended elementary flow nomenclature.

The practicability of such Code does not only depend on the timeliness and appropriateness of information but also on its accessibility. Even though the chapters are numbered, numbers for subsections are missing in the layout. This requires the use of font sizes for orientation, which, in some cases, is confusing, as different types of subsections follow each other like 'special issues' and 'discussions'. This makes it also difficult to assess the target of cross-references, which are given in page numbers. The large index as encyclopaedic reference shows that certain issues are treated in many chapters, which complicates the re-visiting of sub-chapters and the navigation through the code. On the other hand, the sometimes accidental structure is explained in the chapters and proves to be appropriate for the parallel treatment of general and specific issues.

In conclusion, this book demonstrates the efficiency of three years of international and voluntary cooperative work of the Working Group Data Quality and Data Availability. In an arena, where data collection appears to be an adventure trail through commercial interests, confidentiality, complex nomenclature, a multitude of measurements, software incompatibilities, complex models, and numerous uncertainties, this Code represents a well-balanced portrait of the state of art and current challenges. Even if some listings are a bit outdated at the end of 2003 considering the rapid data and information technology development, this combination of surveys, science, and practical considerations may well serve as a handbook for practitioners and anyone interested in the complexities of LCI practice.

Code of Life-Cycle Inventory Practice (book & CD)	\$36 / 36 E	\$60 / 60 E	#SB02-8	160 pp.	2003	Edited by Beaufort-Langeveld, Bretz, Hirschier, Huijbregts, Jean, Tanner, van Hoof
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Book Presentations

A Theory of the Environment and Economic Systems

A Unified Framework for Ecological Economic Analysis and Decision Support*

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Edward Elgar Publishing, Cheltenham, 2001 (<http://www.e-elgar.co.uk>), Hardbound, 352 pp., 64.95 GBP / 100.00 USD; ISBN 352-1-84064-643-8

Contents: Preface Part I: Introduction 1. The Questions 2. The Scientific Context 3. Outlook Part II: Economic Systems 4. Introduction to Part Two 5. Economic Processes 6. On Solving the First Fundamental Equation 7. Towards Concrete Tools for Environmental Analysis and Decision-Support: Inventory Analysis Part III: The Environment 8. Introduction to Part Three 9. Environmental Processes 10. Environmental Impacts 11. The Environmental Problem 12. Towards Concrete Tools for Environmental Analysis and Decision-Support: Impact Analysis Part IV: Conclusion 13. The Answers 14. Further Reflections 15. Summary of Findings References Index

A number of tools for environmental analysis and decision support have been developed over time, including life-cycle assessment, substance-flow analysis, environmental impact and risk assessment. Many of these tools have different economic sys-

tems – a product, a regional substance-flow, a factory or emission pattern etc. – as their object. This book aims to reconcile and unify the many different tools for environmental analysis and decision-support into one meta-tool.

The subject of this study revolves around two problems: the attribution problem – which environmental problems are to be attributed to which economic activities; and the position problem – what is the relative position of a number of the various tools for environmental decision-support? Both these problems can be resolved by the construction of a general framework and specific methodological steps within the framework. The main focus of this study is on the methodology.

By providing a common framework for topics often treated in isolation this book enables experts from many fields, including scholars of environmental, resource and ecological economics, environmental science as well as researchers and professionals within industrial ecology, to understand the full depth and range of the material.

* Heijungs, R.: Economic Drama and the Environmental Stage. Formal derivation of algorithmic tools for environmental analysis and decision-support from a unified epistemological principle. Proefschrift. Leiden 1997 [see also Int J LCA 2 (4) 195–196 (1997)]